

Design Add and Search Words Data Structure [\(View\)](#)

Design a data structure that supports adding new words and finding if a string matches any previously added string.

Implement the `WordDictionary` class:

- `WordDictionary()` Initializes the object.
- `void addWord(word)` Adds `word` to the data structure, it can be matched later.
- `bool search(word)` Returns `true` if there is any string in the data structure that matches `word` or `false` otherwise. `word` may contain dots `'.'` where dots can be matched with any letter.

Example:

Input

```
["WordDictionary","addWord","addWord","addWord","search","search","search","search"]
[[[]],["bad"],["dad"],["mad"],["pad"],["bad"],[".ad"],["b.."]]
```

Output

```
[null,null,null,null,false,true,true,true]
```

Explanation

```
WordDictionary wordDictionary = new WordDictionary();
wordDictionary.addWord("bad");
wordDictionary.addWord("dad");
wordDictionary.addWord("mad");
wordDictionary.search("pad"); // return False
wordDictionary.search("bad"); // return True
wordDictionary.search(".ad"); // return True
wordDictionary.search("b.."); // return True
```

Constraints:

- `1 <= word.length <= 500`
- `word` in `addWord` consists lower-case English letters.
- `word` in `search` consist of `'.'` or lower-case English letters.
- At most `50000` calls will be made to `addWord` and `search`.